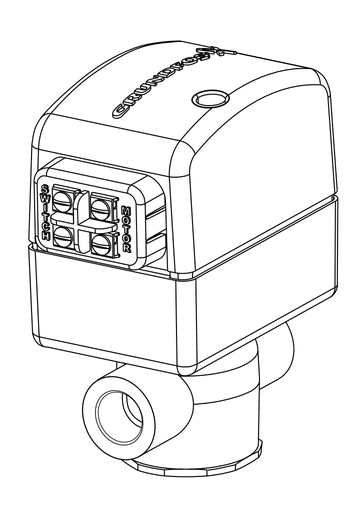


GRUNDFOS **INSTRUCTIONS**

Grundfos UP-ZV

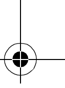
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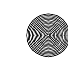


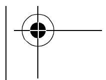


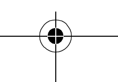


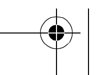


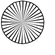


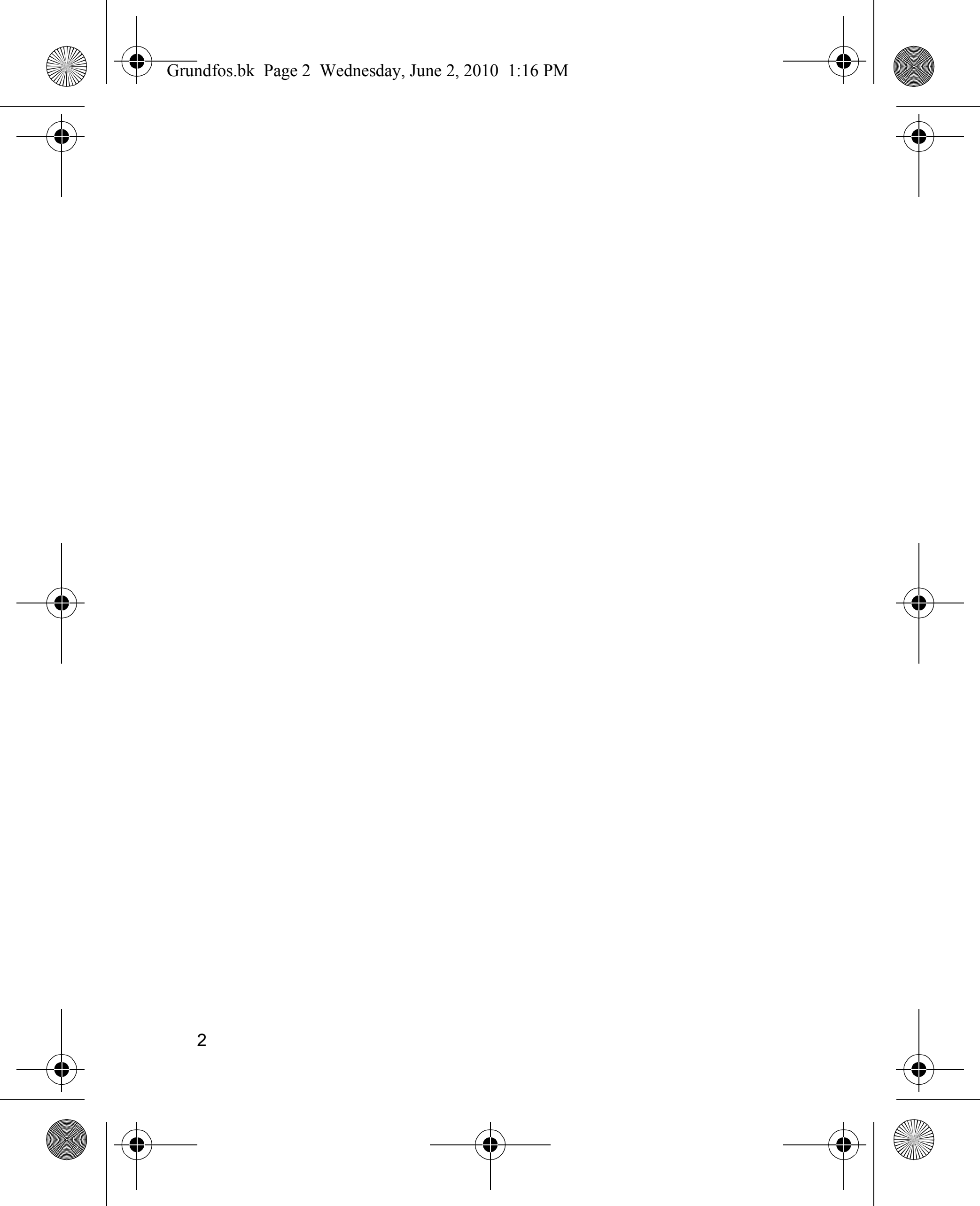


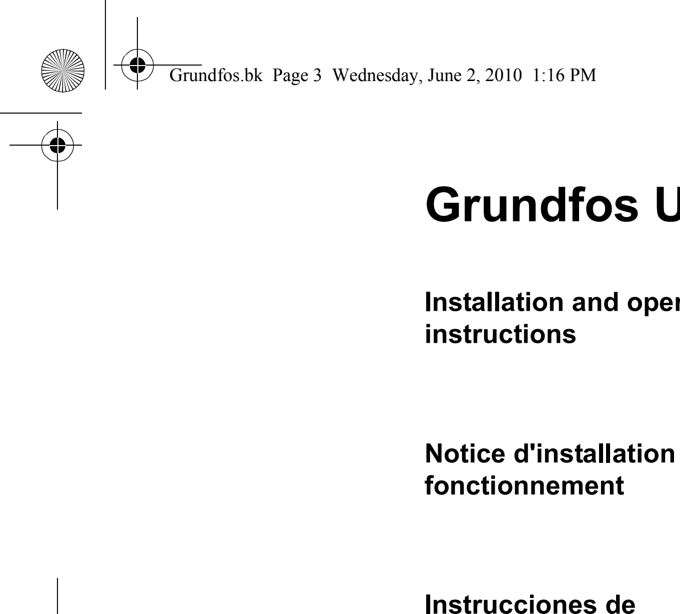














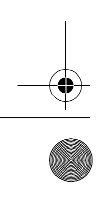
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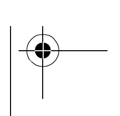
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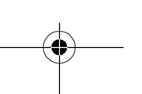
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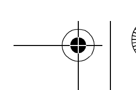
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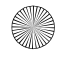


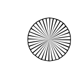
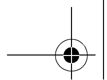
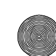
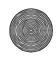


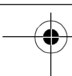










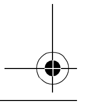
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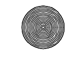
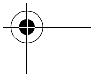
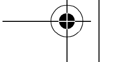
Products manufactured by GRUNDFOS PUMPS CORPORATION (Grundfos) are warranted to the original user only to be free of defects in material and workmanship for a period of 24 months from date of manufacture. Grundfos' liability under this warranty shall be limited to repairing or replacing at Grundfos' option, without charge, F.O.B. Grundfos' factory or authorized service station, any product of Grundfos' manufacture. Grundfos will not be liable for any costs of removal, installation, transportation, or any other charges which may arise in connection with a warranty claim. Products which are sold but not manufactured by Grundfos are subject to the warranty provided by the manufacturer of said products and not by Grundfos' warranty. Grundfos will not be liable for damage or wear to products caused by abnormal operating conditions, accident, abuse, misuse, unauthorized alteration or repair, or if the product was not installed in accordance with Grundfos' printed installation and operating instructions.

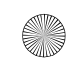
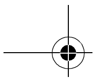
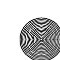
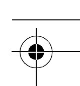
To obtain service under this warranty, the defective product must be returned to the distributor or dealer of Grundfos' products from which it was purchased together with proof of purchase and installation date, failure date, and supporting installation data. Unless otherwise provided, the distributor or dealer will contact Grundfos or an authorized service station for instructions. Any defective product to be returned to Grundfos or a service station must be sent freight prepaid; documentation supporting the warranty claim and/or a Return Material Authorization must be included if so instructed.

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Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages and some jurisdictions do not allow limit actions on how long implied warranties may last. Therefore, the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from jurisdiction to jurisdiction.





Original installation and operating instructions.

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Warning

Prior to installation, read these installation and operating instructions. Installation and operation must comply with national, state, and local regulations and accepted codes of good practice.

1. Symbols used in this document



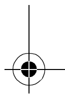
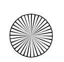
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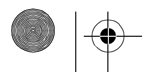
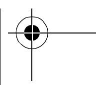
If these safety instructions are not observed, it may result in personal injury!

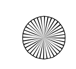
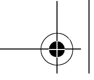
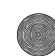
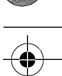


Warning

If these instructions are not observed, it may lead to electric shock with consequent risk of serious personal injury or death.



Caution

If these safety instructions are not observed, it may result in malfunction or damage to the equipment.

Note

Notes or instructions that make the job easier and ensure safe operation.

2. General description

Grundfos 24 V zone valves, UP-ZV, are designed for closed water heating and cooling applications. UP-ZV are not intended for potable water applications. See section *9. Technical data* for additional specifications.

3. Shipment inspection

On receipt, examine the components carefully to make sure no damage has occurred to the zone valve during shipment. Take care and ensure that the zone valve is NOT dropped or mishandled. Check to see that the shipment includes:

- one zone valve body
- one zone valve actuator (motor)
- one installation and operating instruction manual.

4. Valve body installation

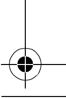
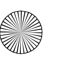
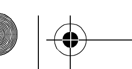
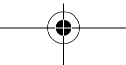
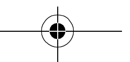
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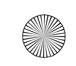
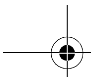
All work must be performed by qualified personnel trained properly in the application, installation and maintenance of systems in accordance with applicable national, state and local codes.

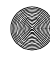
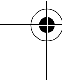


Warning

Do not over-tighten pipe joints.
The PTFE-coating of pipe joints provides lubricity, so breakage can occur if pipe joints are over-tightened. Failure to follow these instructions could result in property damage and/or personal injury.

Warning

Liquid may be under pressure or temperature hazardous. Be sure the pressure has been reduced to zero and the temperature is at safe levels. Failure to follow these instructions could result in property damage and/ or personal injury.

- Valves can be installed vertically or horizontally, but never upside down. See fig. 1.

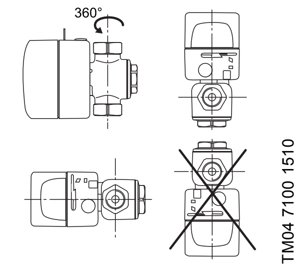


Fig. 1 Valve body installation

- The flow direction is indicated by an arrow on the valve body. The flow direction is from A to B and the valve body must be installed so that the internal paddle closes against the direction of flow as indicated in in fig. 2 and fig. 3.
- Valves can be installed in the supply or return piping; for correct installation it is necessary to respect the flow direction indicated by the arrow on the valve body.

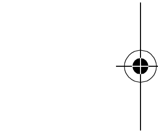







Fig. 2 Valve body label; flow direction

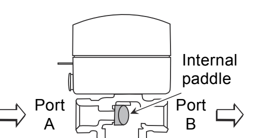
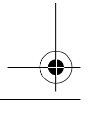
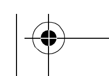
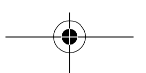
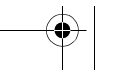
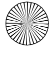
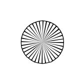
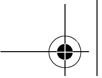
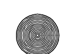
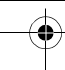


Fig. 3 Two-way valve, normally closed

- Be sure to have the actuator removed from the valve body when soldering.

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- Keep the internal paddle in position OPEN during soldering.
- Clean all solder surfaces, avoid excessive use of flux, and direct flame tip away from valve body.



5. Actuator installation

1. Slowly move the manual opening lever so it is locked in OPEN position; see fig. 4.
2. Make sure that the valve stem is centered into the mating actuator hole. Move the stem if alignment is required.
3. Press the release button and slide the actuator onto the valve body. When actuator is in place, release the button. See fig. 5.

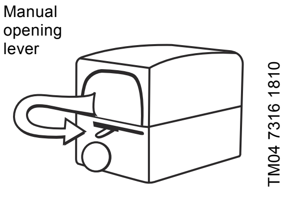


Fig. 4 Lock lever in OPEN position

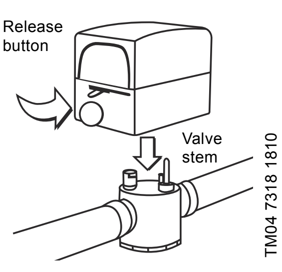
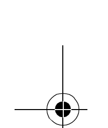
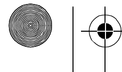
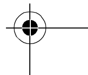
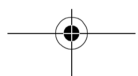
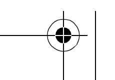
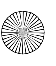
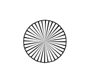
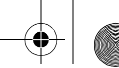
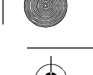
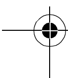


Fig. 5 Installing actuator



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6. Electrical installation/ wiring

Warning

Risk of electric shock. All electrical work should be performed by qualified personnel in accordance with the latest edition of the National Electrical Code, state, and local regulations.

Warning

Do not connect high voltage, i.e. any power over 24 V AC/ DC to actuator. Incorrect wiring can damage the actuator and/or end switch. Check wiring and voltage supply before applying power.

- Only connect 24 V voltage supply, Class 2.
- See fig. 6 for wiring options.

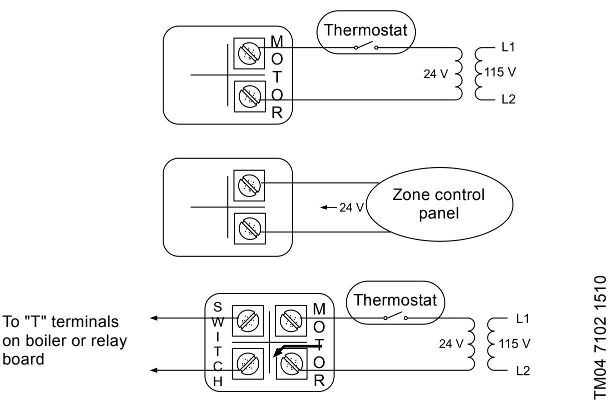
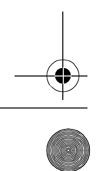
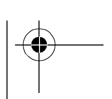
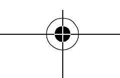
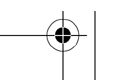
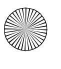
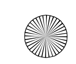
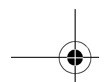
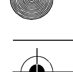
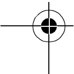


Fig. 6 Wiring options

7. Valve operation

- The valve is an NC (normally closed) type of valve, i.e. it is closed when no power is applied.

Without power	Port “A”* closed
With power	Port “A”* opened
Manually opened	Port “A”* opened

* See fig. 3 for location of Port A and Port B.

- **Automatic operation**
  When power is applied, the manual lever will unlock automatically.
- **Manual operation**
  Slowly move the manual opening lever to the unlocked position. See fig. 7.

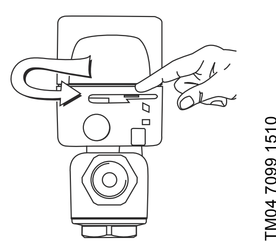
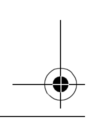


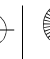
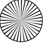
Fig. 7 Manual opening and closing of valve

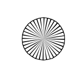
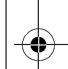
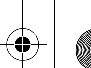
7.1 Switch state

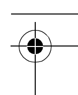
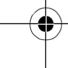
- The end switch contacts are open when the valve is closed.
- The switch contacts are closed (call for heat) when the valve is open (automatically).
- The switch contacts are also closed when the actuator is manually opened. This allows the heating circulation to function by simply manually opening the actuator.

Valve actuator	Switch contacts
Closed	Open
Open	Closed
Manually open	Closed



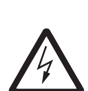



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8. Service



Warning

Before starting any work, make sure power supply has been switched off and that it cannot be accidentally switched on.



Warning

Piping may be scalding hot.
Be careful when removing actuator.

Caution

This valve should be serviced by a trained, experienced service technician.

8.1 Removing the actuator

1. Remove any wiring connections.
2. Slowly move manual opening lever to the locked position. See fig. 8.

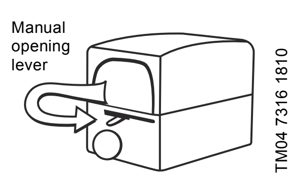


Fig. 8 Move lever to locked position

3. Press the release button and pull actuator up. See fig. 9.
4. Inspect valve body and piping connections.
5. Repeat steps in *5. Actuator installation*.

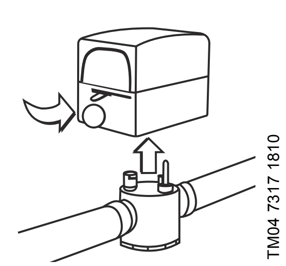
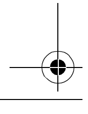
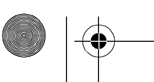
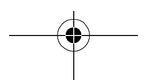
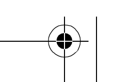
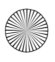
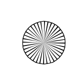
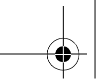
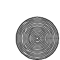
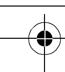


Fig. 9 Push release button and pull actuator up



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9. Technical data

9.1 Valve body

Materials

Body:	Brass
Seat:	Brass
Stem:	Stainless steel
O-ring:	EPDM
Paddle:	EPDM

Liquid

Max. water/ glycol mix:	50:50
Min. to max. temp. range:	33 °F to 240 °F (1 °C to 115 °C)

Max. static pressure

300 psi (20 bar)

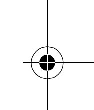
15 psi (1 bar) steam

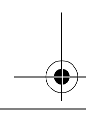
De-energized paddle position

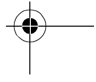
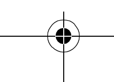
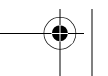
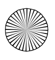
Normally closed

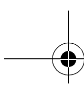
Flow characteristics

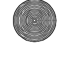
Sweat connect.	Flow coefficient	Max. close-off ΔP
1/2 inch	3.5 Cv (3.0 Kv)	30 psi (207 kPa)
3/4 inch	7.5 Cv (6.5 Kv)	20 psi (138 kPa)
1 inch	7.5 Cv (6.5 Kv)	20 psi (138 kPa)
3/4 inch	3.5 Cv (3.0 Kv)	30 psi (207 kPa)

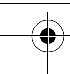










9.2 Actuator

Materials

Cover:	Polycarbonate
Base:	Polycarbonate
Base plate:	Aluminum

Motor

Type:	Synchronous hysteresis
Class:	2
Voltage range:	24 VAC +/- 10 %
Rated AC:	50/60 Hz
Power:	
Watt:	5
VA range:	7

End (auxiliary) switch

Type:	Sealed switch
Max. rating:	0.4 A @ 24 VAC (AC/DC), Class 2
De-energized position:	Normally open

Max. humidity

95 % non-condensing

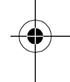
Ambient temperature range

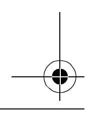
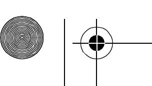
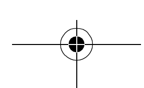
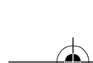
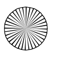
33 to 104 °F (1 to 40 °C)

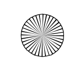
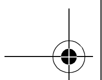
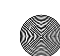
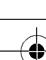
Approvals

cULus Listed

US



10. Troubleshooting

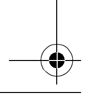
Problem	Check for:
Noisy valve	Excessive flow velocity
	Air in liquid
	Liquid over 240 °F (115 °C)
	Check proper flow direction
Valve does not open	Check voltage
	Check wiring
Valves does not close or seal off	Check voltage
	ΔP too high
	Debris in valve chamber
	Damaged paddle
No demand for heat	Check that valve is open
	Check continuity of end switch when valve is open

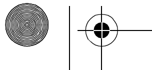
11. Disposal

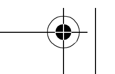
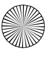
This product or parts of it must be disposed of in an environmentally sound way:

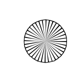
1. Use the public or private waste collection service.
2. If this is not possible, contact the nearest Grundfos company or service workshop.

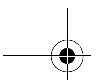
Subject to alterations.

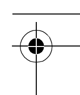








GARANTIE LIMITÉE

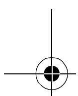
Les produits fabriqués par GRUNDFOS PUMPS CORPORATION (Grundfos) sont couverts par une garantie à l'utilisateur initial à l'effet qu'ils sont exempts de vices attribuables aux matériaux et à la fabrication pour une période de 24 mois après la date d'installation, mais sans excéder une période de 30 mois après la date de fabrication. Selon les termes de cette garantie, la responsabilité de Grundfos se limitera à réparer ou à remplacer sans frais, à la discrétion de Grundfos et FAB de l'usine de Grundfos ou d'un poste de service autorisé, tout produit provenant de l'usine de Grundfos. Grundfos ne sera pas responsable des frais d'enlèvement, d'installation, de transport, ou de tous les autres frais pouvant être encourus dans le cadre d'une demande d'indemnité concernant la garantie. Les produits vendus, mais qui ne sont pas fabriqués par Grundfos, sont couverts par la garantie offerte par les fabricants de ces produits, et ils ne sont pas couverts par la garantie de Grundfos. Grundfos ne sera pas responsable de la détérioration des produits ou des produits endommagés dans les cas suivants : conditions d'utilisation anormales, accidents, abus, mauvais usage, modification ou réparation non autorisée, ou lorsque le produit n'a pas été installé conformément aux instructions écrites de Grundfos concernant l'installation et l'exploitation.

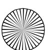
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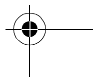
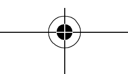
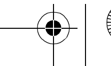
Pour obtenir un service selon les termes de cette garantie, vous devez retourner le produit défectueux au distributeur ou au fournisseur de produits Grundfos qui vous a vendu le produit, incluant la preuve d'achat et la date d'installation, la date de la défaillance, et les informations concernant l'installation. Sauf disposition contraire, le distributeur ou le fournisseur contactera Grundfos ou un poste de service autorisé pour obtenir les instructions. Tout produit défectueux doit être retourné "fret payé à l'avance" à Grundfos ou à un poste de service. Les documents décrivant la demande d'indemnité aux termes de la garantie et/ou une autorisation de retour de marchandise doivent être inclus si exigé.

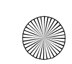
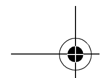
GRUNDFOS NE SERA PAS RESPONSABLE DES DOMMAGES INDIRECTS OU CONSÉCUTIFS, DES PERTES, OU DES FRAIS DÉCOULANT DE L'INSTALLATION, L'UTILISATION, OU DE TOUTE AUTRE CAUSE. IL N'EXISTE AUCUNE GARANTIE EXPRESSE OU IMPLICITE, INCLUANT LA QUALITÉ MARCHANDE OU L'ADAPTATION À UNE FIN PARTICULIÈRE, QUI OUTREPASSE LES GARANTIES DÉCRITES OU RÉFÉRENCÉES CI-DESSUS.

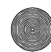
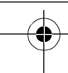
Certaines juridictions ne permettent pas l'exclusion ou la limitation des dommages indirects ou consécutifs, et certaines juridictions ne permettent pas de limiter la durée des garanties implicites. Il est donc possible que les limitations ou que les exclusions mentionnées précédemment ne s'appliquent pas à vous. Cette garantie vous accorde des droits légaux spécifiques, et vous pouvez également avoir d'autres droits qui varient d'une juridiction à l'autre.





SOMMAIRE

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Avertissement

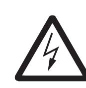
Avant d'entamer les opérations d'installation, étudier avec attention la présente notice d'installation et de fonctionnement. L'installation et le fonctionnement doivent être conformes aux réglementations locales et faire l'objet d'une bonne utilisation.

1. Symboles utilisés dans cette notice



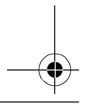
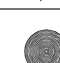
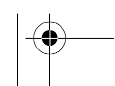
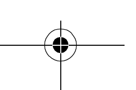
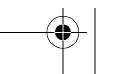
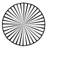
Avertissement

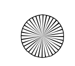
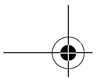
Si ces instructions de sécurité ne sont pas observées, il peut en résulter des dommages corporels !

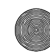


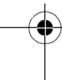
Avertissement

Le non respect de ces instructions peut provoquer un choc électrique pouvant entraîner de graves brûlures ou même la mort





Précautions

Si ces instructions ne sont pas respectées, cela peut entraîner un dysfonctionnement ou des dégâts sur le matériel !

Nota

Ces instructions rendent le travail plus facile et assurent un fonctionnement fiable.

2. Description générale

Les vannes de zone Grundfos 24 V, UP-ZV, sont conçues pour des applications fermées de refroidissement et de chauffage de l'eau. Les vannes UP-ZV ne sont pas prévues pour des applications pour l'eau potable. Voir paragr. *9. Caractéristiques techniques* pour d'autres informations.

3. Inspection de l'expédition

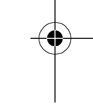
À la réception, examiner soigneusement les composants afin de s'assurer que la vanne de zone n'a subi aucun dommage pendant le transport. S'assurer que la vanne de zone ne tombe PAS à terre et qu'elle soit manipulée avec soin. Vérifier que l'envoi comprend :

- un corps de vanne de zone,
- un actionneur de vanne de zone (moteur),
- une notice d'installation et de fonctionnement.

4. Installation du corps de la vanne

Avertissement

Tous les travaux doivent être effectués par du personnel qualifié et bien formé pour l'application, l'installation et la maintenance de systèmes en conformité avec les codes locaux, régionaux et nationaux applicables.

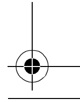
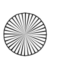
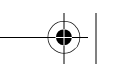
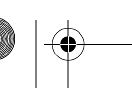
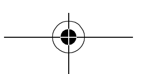



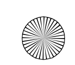
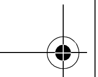
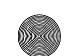
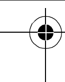
Avertissement



Ne pas trop serrer les joints.
Le revêtement PTFE des raccords de tuyaux est lubrifiant. Une rupture peut donc se produire si les joints sont trop serrés. Le non-respect de ces instructions peut entraîner des dommages matériels et des accidents corporels.



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Avertissement

Le liquide peut être sous pression ou à une température dangereuse. S'assurer que la pression est réduite à zéro et la température à un niveau sans danger. Le non-respect de ces instructions peut entraîner des dommages matériels et des accidents corporels.

- Les vannes peuvent être installées verticalement ou horizontalement mais jamais à l'envers. Voir fig. 1.

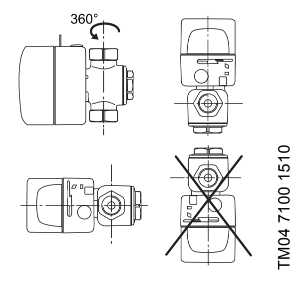


Fig. 1 Installation du corps de la vanne

- Le sens du débit est indiqué par une flèche sur le corps de la vanne. Le sens du débit est de A à B et le corps de la vanne doit être installé de sorte que l'aube interne se ferme à contre-courant, comme l'indiquent la fig. 2 et la fig. 3.
- Les vannes peuvent être installées dans la conduite d'alimentation ou de retour; pour réaliser une installation correcte, il est nécessaire de respecter le sens du débit indiqué par la flèche sur le corps de la vanne.

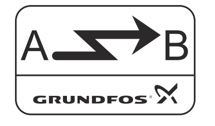


Fig. 2 Étiquette corps de vanne; sens du débit

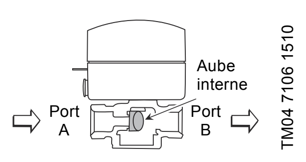
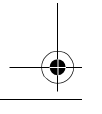
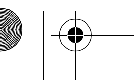
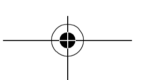
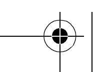
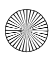
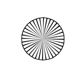
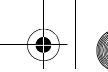


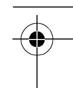
Fig. 3 Vanne à deux voies, normalement fermée







- Lors d'un brasage, s'assurer que l'actionneur est retiré du corps de la vanne.
- Pendant le brasage, maintenir l'aube en position OUVERTE.
- Nettoyer toutes les surfaces à braser, éviter un flux excessif et diriger la flamme directe loin du corps de la vanne.

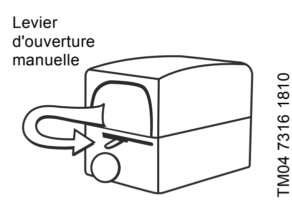




Fig. 4 Levier de blocage en position OUVERTE

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5. Installation de l'actionneur

1. Déplacer lentement le levier d'ouverture manuelle pour le verrouiller en position OUVERTE; voir fig. 4.
2. S'assurer que la tige de vanne est centrée dans l'orifice d'accouplement de l'action-neur. Déplacer la tige, si l'ali-gnement est nécessaire.
3. Appuyer sur le bouton de déclenchement et faire glisser l'actionneur sur le corps de la vanne. Lorsque l'actionneur est en place, relâcher le bou-ton. Voir fig. 5.

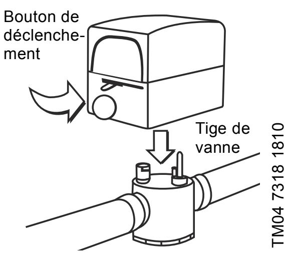
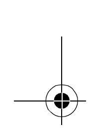
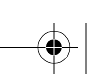
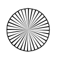
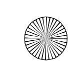
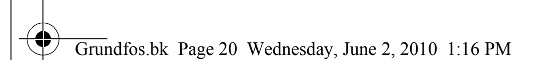
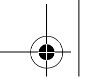


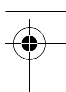

Fig. 5 Installation de l'actionneur



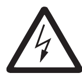







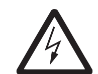
6. Installation électrique/ câblage

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Avertissement

Risque d'électrocution. Toutes les installations électriques doivent être effectuées par un personnel qualifié conformément à la version la plus récente du Code national de l'électricité, des codes locaux et des réglementations locales.

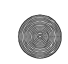
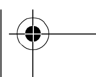
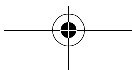
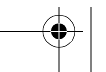
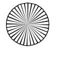


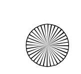
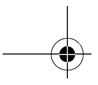
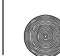
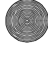
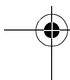
Avertissement

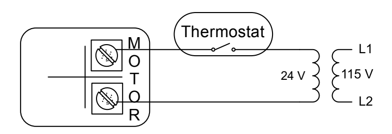
Ne pas brancher de haute tension à l'actionneur, c'est-à-dire tout courant de plus de 24 V CA/CC. Un câblage incorrect peut endommager l'actionneur et le commutateur de fin de course. Vérifier le câblage et la tension avant la mise sous tension.

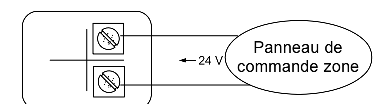
- Brancher uniquement une tension d'alimentation de 24 V, classe 2.
- Voir fig. 6 pour connaître les options de câblage.

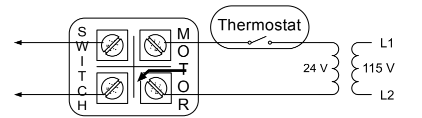


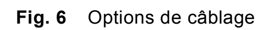














Fig. 6 Options de câblage

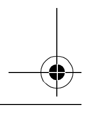
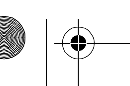
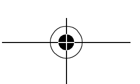
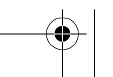
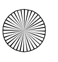
7. Fonctionnement vanne

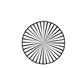
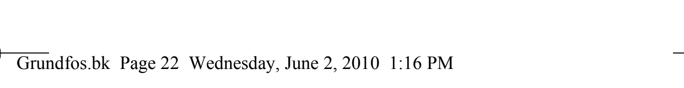
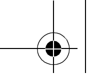
- La vanne est de type NC (normally closed - normalement fermée), c'est-à-dire fermée en l'absence de courant.

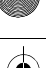
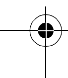
Sans courant	Port “A”* fermé
Avec courant	Port “A”* ouvert
Ouvert manuellement	Port “A”* ouvert

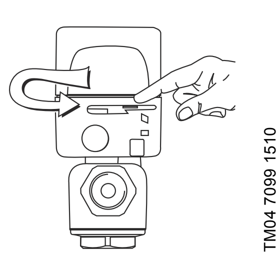
* Voir fig. 3 pour connaître l'emplacement du port A et du port B.

- **Fonctionnement automatique**
  En présence de courant, le levier manuel se déverrouille automatiquement.
- **Fonctionnement manuel**
  Déplacer lentement le levier d'ouverture manuelle en position déverrouillée. Voir fig. 7.



F

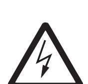
Fig. 7 Ouverture et fermeture manuelles de la vanne

7.1 État commutateur

- Les contacts fin de course sont ouverts lorsque la vanne est fermée.
- Les contacts de commutation sont fermés (appel de chaleur) lorsque la vanne est ouverte (automatiquement).
- Les contacts de commutation sont également fermés lorsque l'actionneur est ouvert manuellement. Cela permet à la circulation de chauffage de fonctionner simplement en ouvrant manuellement l'actionneur.

Actionneur de vanne	Contacts du commutateur
Fermé	Ouverts
Ouvert	Fermés
Ouvert manuellement	Fermés

8. Service



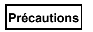
Avertissement

Avant toute intervention, s'assurer que l'alimentation électrique a été coupée et qu'elle ne risque pas d'être branchée accidentellement.

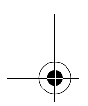
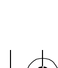
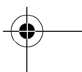
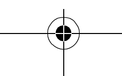
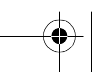
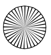
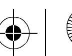


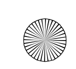
Avertissement

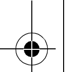
La tuyauterie peut être brûlante.
Faire attention en retirant l'actionneur.

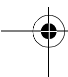


Cette vanne doit être révisée par un technicien formé et expérimenté.





8.1 Démontage de l'actionneur

1. Débrancher tous les câbles.
2. Déplacer lentement le levier d'ouverture manuelle en position verrouillée. Voir fig. 8.

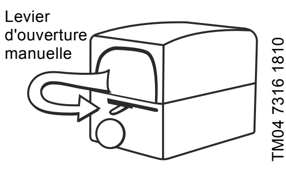


Fig. 8 Déplacer le levier en position verrouillée

3. Appuyer sur le bouton de déclenchement et lever l'actionneur. Voir fig. 9.
4. Inspecter le corps de la vanne et les branchements de la tuyauterie.
5. Répéter les étapes du paragr. *5. Installation de l'actionneur*.

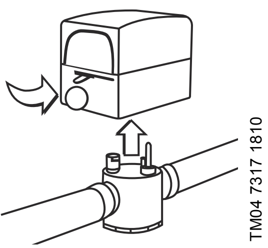


Fig. 9 Pousser le bouton de déclenchement et lever l'actionneur

F

9. Caractéristiques techniques

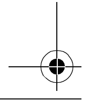
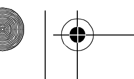
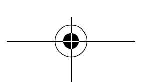
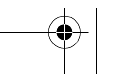
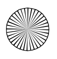
9.1 Corps de vanne

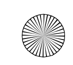
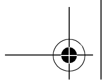
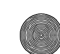
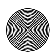
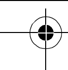
Matériaux

Corps :	Laiton
Assise :	Laiton
Tige :	Acier inoxydable
Joint torique :	EPDM
Aube :	EPDM

Liquide

Mélange eau/ glycol max. :	50:50
Plage temp. min. à max. :	33 °F à 240 °F (1 °C à 115 °C)

F

Pression statique max.

300 psi (20 bar)

15 psi (1 bar) vapeur

Position aube, alimentation coupée

Normalement fermée

Caractéristiques du débit

Connexion ressuage	Coefficient débit	Pression admissible max. ΔP
1/2 pouce	3,5 Cv (3,0 Kv)	30 psi (207 kPa)
3/4 pouce	7,5 Cv (6,5 Kv)	20 psi (138 kPa)
1 pouce	7,5 Cv (6,5 Kv)	20 psi (138 kPa)
3/4 pouce	3,5 Cv (3,0 Kv)	30 psi (207 kPa)

9.2 Actionneur

Matériaux

Couvercle :	Polycarbonate
Base :	Polycarbonate
Plaque de base :	Aluminium

Moteur

Type :	Hystérésis synchrone
Classe :	2
Plage de tension :	24 VAC +/- 10 %
CA nominal :	50/60 Hz
Puissance :	
Watt :	5
Plage VA :	7

Commutateur (auxiliaire) de fin de course

Type :	Commutateur étanche
Car. nominales max. :	0,4 A @ 24 VAC (CA/CC), classe 2
Position alimentation coupée :	Normalement ouvert

Humidité max.

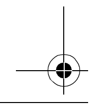
95 % (sans condensation)

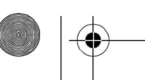
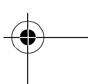
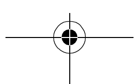
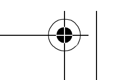
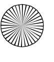
Plage de température ambiante

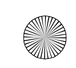
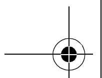
33 à 104 °F (1 à 40 °C)

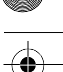
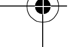
Approbations

Homologué cULus



10. Détection des défauts de fonctionnement

Problème	**Vérifier**
Vanne bruyante	Vitesse de débit excessive
	Air dans le liquide
	Liquide au-dessus de 240 °F (115 °C)
	Vérifier le sens de débit
La vanne ne s'ouvre pas	Vérifier la tension
	Vérifier le câblage
Les vannes ne se ferment pas ou ne sont pas scellées	Vérifier la tension
	ΔP trop élevée
	Débris dans la chambre de la vanne
	Aube endommagée
Aucun appel de chaleur	Vérifier que la vanne est ouverte
	Vérifier la continuité du commutateur de fin de course lorsque la vanne est ouverte

F

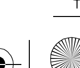
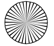
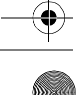
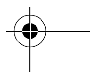
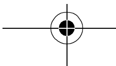
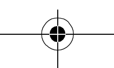
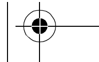
11. Mise au rebut

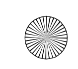
Ce produit ou des parties de celui-ci doit être mis au rebut tout en préservant l'environnement :

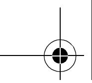
1. Utiliser le service local public ou privé de collecte des déchets.
2. Si ce n'est pas possible, envoyer ce produit à Grundfos ou au réparateur agréé Grundfos le plus proche.

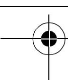
Nous nous réservons tout droit de modifications.







GARANTIA LIMITADA

Los productos fabricados por GRUNDFOS PUMPS CORPORATION (Grundfos) se garantizan solamente al usuario original de estar libres de defectos en sus materiales y en su mano de obra por un período de 24 meses a partir de la fecha de instalación, pero no más de 30 meses a partir de la fecha de fabricación. La responsabilidad legal de Grundfos que cubre esta garantía se limitará a reparar o reemplazar a opción de Grundfos, sin cargo, LAB fábrica Grundfos o estación de servicio autorizado, cualquier producto manufacturado por Grundfos. Grundfos no se hará responsable de ningún costo de remoción, instalación, transporte o cualquier otro cargo que pueda surgir en relación con un reclamo de garantía.

Los productos vendidos pero no manufacturados por Grundfos están sujetos a la garantía proporcionada por el fabricante de dichos productos y no por la garantía de Grundfos. Grundfos no será responsable por el daño o desgaste de productos provocado por condiciones de operación anormales, accidentes, abuso, maltrato, alteraciones o reparaciones no autorizadas, o si el producto no fue instalado de acuerdo con el instructivo de instalación y operación impreso de Grundfos.

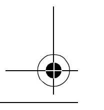
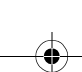
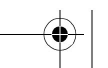
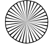
Para obtener el servicio que cubre esta garantía, el producto defectuoso debe regresarse al distribuidor de productos Grundfos a quien se compró junto con la prueba de compra y fecha de instalación, fecha de falla y datos de instalación.

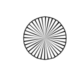
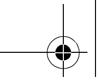
El distribuidor se pondrá en contacto con Grundfos o con una estación de servicio autorizada para instrucciones. Cualquier producto defectuoso regresado a Grundfos o a una estación de servicio autorizada, deberá ser enviado prepagado; con documentación que apoye el reclamo de garantía y se debe incluir, si así se pide, una Autorización de Devolución de Material.

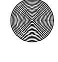
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Advertencia

Leer estas instrucciones de instalación y funcionamiento antes de realizar la instalación.
La instalación y el funcionamiento deben cumplir con las normativas locales en vigor.



1. Símbolos utilizados en este documento





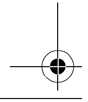
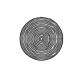
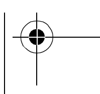
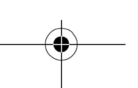
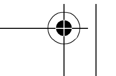
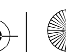
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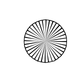
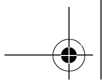
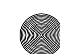
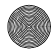
¡El no seguir estas instrucciones de seguridad puede tener como resultado lesiones a su persona!

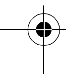


Advertencia

Si no se presta atención a estas instrucciones, puede haber un corto circuito con riesgo de ser dañado o muerte.



Precaución	***¡Si estas instrucciones de seguridad no son observadas puede tener como resultado daños para los equipos!***
Nota	***Notas o instrucciones que hacen el trabajo más sencillo garantizando un funcionamiento seguro.***

2. Descripción general

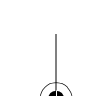
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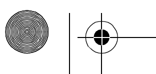
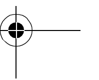
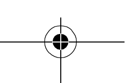
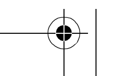
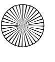
Las válvulas de zona de 24 V UP-ZV fabricadas por Grundfos han sido diseñadas para su uso en aplicaciones de sistemas cerrados de calentamiento y refrigeración de agua y no son aptas para el procesado de agua potable. Consulte la sección *9. Datos técnicos* si desea conocer sus especificaciones.

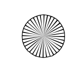
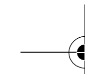
3. Inspección tras la recepción

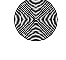
Una vez recibida la válvula de zona, examine detenidamente sus componentes y asegúrese de que no han sufrido ningún daño durante el transporte. Extreme la precaución y asegúrese de que la válvula de zona NO pueda caerse ni ser manipulada de forma incorrecta. Compruebe que el paquete contenga los artículos descritos a continuación:

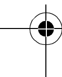
- un cuerpo de válvula de zona
- un actuador de válvula de zona (motor)
- un manual de instrucciones de instalación y funcionamiento.







4. Instalación del cuerpo de la válvula

Advertencia

Todas las tareas deben ser llevadas a cabo por personal cualificado que cuente con el conocimiento necesario para el uso, la instalación y el mantenimiento de sistemas, de acuerdo con los códigos nacionales, estatales y municipales aplicables.



Advertencia

No apriete demasiado las juntas de las tuberías.
El revestimiento de PTFE de las juntas de las tuberías actúa como lubricante, por lo que podría producirse una rotura si las juntas se aprietan demasiado. La omisión de estas instrucciones podría resultar en daños a la propiedad y/o lesiones a su persona.

Advertencia

El líquido contenido en la válvula podría estar sometido a un alto nivel de presión o encontrarse a una temperatura peligrosa. Asegúrese de liberar la presión y permitir que el líquido alcance una temperatura segura. La omisión de estas instrucciones podría resultar en daños a la propiedad y/o lesiones a su persona.

- La instalación de las válvulas puede llevarse a cabo en posición horizontal o vertical, pero nunca bocabajo.
  Consulte la fig. 1.

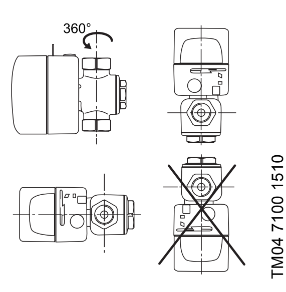
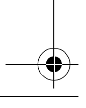
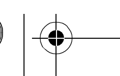
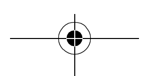
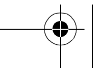
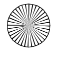
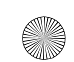
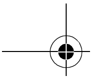
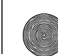
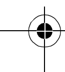


Fig. 1 Instalación del cuerpo de la válvula

E



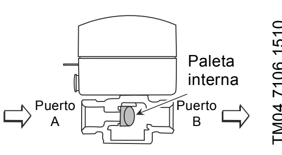
E

- El sentido de flujo se indica por medio de la flecha que figura sobre el cuerpo de la válvula. Tiene lugar siempre desde el extremo A hacia el extremo B; el cuerpo de la válvula debe instalarse de modo que la paleta interna se cierre en sentido contrario al sentido de flujo, como se indica en las figs. 2 y 3.
- Las válvulas se pueden instalar en tuberías de suministro o retorno; para llevar a cabo su instalación correctamente, es necesario respetar el sentido de flujo indicado por la flecha que figura sobre el cuerpo de la válvula.



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Fig. 2 Etiqueta adherida al cuerpo de la válvula; sentido de flujo



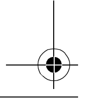
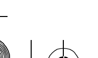
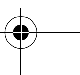
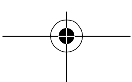
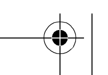
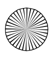
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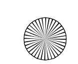
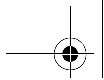
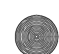
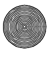
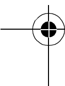
Fig. 3 Válvula de dos vías, normalmente cerrada

- Asegúrese de retirar el actuador del cuerpo de la válvula antes de llevar a cabo una soldadura.
- Mantenga la paleta interna en la posición OPEN durante la soldadura.
- Limpie todas las superficies soldadas, evite el uso excesivo de fundente y dirija la boquilla del soplete en dirección opuesta al cuerpo de la válvula.

5. Instalación del actuador

1. Lentamente, desplace la palanca de apertura manual hasta bloquearla en la posición OPEN (consulte la fig. 4).
2. Asegúrese de hacer coincidir el vástago de la válvula con el orificio del actuador. Mueva el vástago si es necesario alinearlo.
3. Presione el botón de liberación e introduzca el actuador en el cuerpo de la válvula. Una vez insertado el actuador, suelte el botón. Consulte la fig. 5.

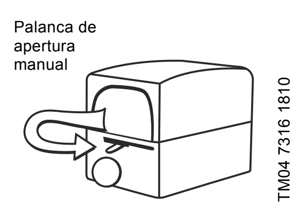


Fig. 4 Palanca de bloqueo en la posición OPEN

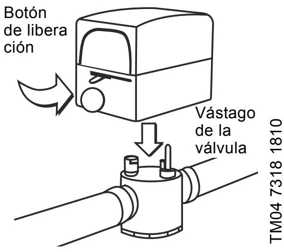


Fig. 5 Instalación del actuador

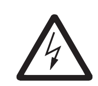
6. Instalación eléctrica/ cableado



Advertencia

Riesgo de descarga eléctrica. Todas las tareas relacionadas con la conexión eléctrica deben ser llevadas a cabo por personal cualificado, de acuerdo con lo descrito en la edición más reciente del Código Eléctrico Nacional y las normas estatales y municipales en vigor.

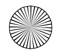
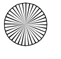
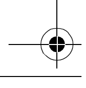
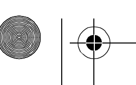
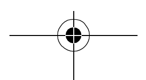
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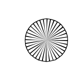
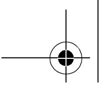
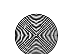


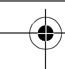
Advertencia

No conecte tensiones demasiado elevadas (superiores a 24 V AC/DC) al actuador. Si el cableado no se lleva a cabo correctamente, el actuador y/o el interruptor terminal podrían resultar dañados.
Compruebe el cableado y la fuente de voltaje antes de conectar la alimentación.

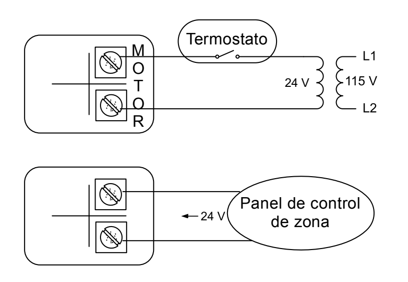


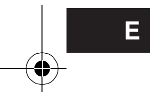








- Conecte sólo fuentes de voltaje de 24 V y clase 2.
- Consulte la fig. 6 si desea obtener información acerca de las opciones de cableado.





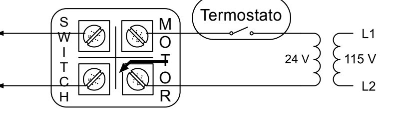



Fig. 6 Opciones de cableado

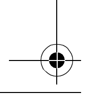
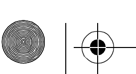
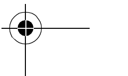
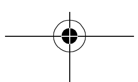
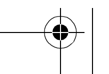
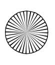
7. Funcionamiento de la válvula

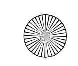
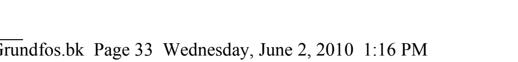
- Ésta es una válvula de tipo NC (normalmente cerrada), por lo que permanece cerrada si no recibe alimentación.

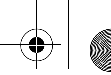
Sin alimentación	Puerto “A”* cerrado
Con alimentación	Puerto “A”* abierto
Apertura manual	Puerto “A”* abierto

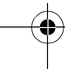
* Consulte la fig. 3 si desea conocer la ubicación de los Puertos A y B.

- **Funcionamiento automático** La palanca manual se desbloquea automáticamente al conectar la alimentación.
- **Funcionamiento manual** Lentamente, desplace la palanca de apertura manual hasta la posición de desbloqueo. Consulte la fig. 7.





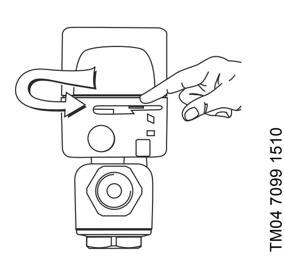


Fig. 7 Apertura y cierre manual de la válvula

7.1 Estado del interruptor

- Los contactos del interruptor terminal se abren cuando la válvula se cierra.
- Los contactos del interruptor terminal se cierran (solicitan calor) cuando la válvula se abre (automáticamente).
- Los contactos del interruptor terminal también se cierran cuando el actuador se abre manualmente. Ello permite que el agua caliente circule con sólo abrir manualmente el actuador.

Actuador de la válvula	Contactos del interruptor
Cerrado	Abiertos
Abierto	Cerrados
Abierto manualmente	Cerrados

8. Reparación

Advertencia
Antes de llevar a cabo cualquier tarea, asegúrese de que la fuente de alimentación se encuentre desconectada y de que no pueda ponerse en marcha accidentalmente.

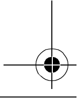
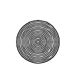
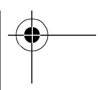
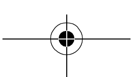
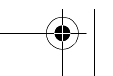
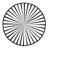


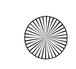
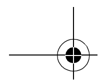
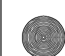
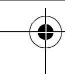
Advertencia
Las tuberías podrían encontrarse a una temperatura suficiente como para constituir un riesgo de quemaduras. Extreme la precaución al retirar el actuador.

Precaución

La reparación de la válvula debe ser llevada a cabo por un técnico que cuente con la debida cualificación y experiencia.

E

8.1 Desmontaje del actuador

1. Desconecte todos los cables conectados.
2. Lentamente, desplace la palanca de apertura manual hasta la posición de bloqueo. Consulte la fig. 8.

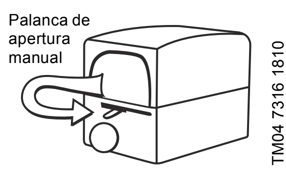


Fig. 8 Desplace la palanca hasta la posición de bloqueo

3. Presione el botón de liberación y tire del actuador hacia arriba. Consulte la fig. 9.
4. Inspeccione el cuerpo de la válvula y la conexión de las tuberías.
5. Repita los pasos descritos en la sección *5. Instalación del actuador*.

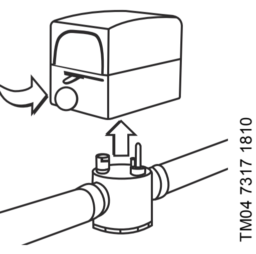


Fig. 9 Presione el botón de liberación y tire del actuador hacia arriba

9. Datos técnicos

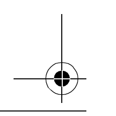
9.1 Cuerpo de la válvula

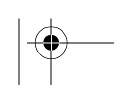
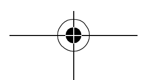
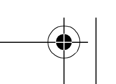
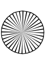
Materiales

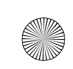
Cuerpo:	Latón
Asiento:	Latón
Vástago:	Acero inoxidable
Junta tórica:	EPDM
Paleta:	EPDM

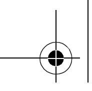
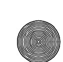
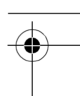
Líquido

Proporción máxima de mezcla de agua/glicol:	50:50
Intervalo de temperatura mín. a máx.:	33 °F a 240 °F (1 °C a 115 °C)





Presión estática máx.

300 psi (20 bar)

15 psi (1 bar) vapor

Posición de la paleta si la válvula no recibe energía

Normalmente cerrada

Características de flujo

Conexión por soldadura blanda	Coeficiente de flujo	ΔP de cierre máx.
1/2 pulgada	3,5 Cv (3,0 Kv)	30 psi (207 kPa)
3/4 pulgada	7,5 Cv (6,5 Kv)	20 psi (138 kPa)
1 pulgada	7,5 Cv (6,5 Kv)	20 psi (138 kPa)
3/4 pulgada	3,5 Cv (3,0 Kv)	30 psi (207 kPa)

9.2 Actuador

Materiales

Carcasa:	Policarbonato
Base:	Policarbonato
Plataforma de base:	Aluminio

Motor

Tipo:	Histéresis sincrónica
Categoría:	2
Intervalo de voltaje:	24 VAC +/- 10 %
Frecuencia AC nominal:	50/60 Hz
Potencia:	
Vatios:	5
Intervalo VA:	7

Interruptor terminal (auxiliar)

Tipo:	Interruptor sellado
Máx. nominal:	0,4 A @ 24 VAC (AC/DC), categoría 2
Posición sin energía:	Normalmente abierto

Humedad máx.

95 %, sin condensación

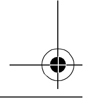
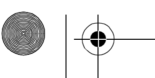
Intervalo de temperatura ambiente

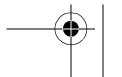
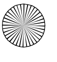
33 a 104 °F (1 a 40 °C)

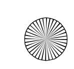
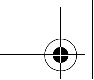
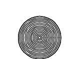
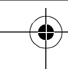
Aprobaciones

Aprobación cULus

E

10. Solución de problemas

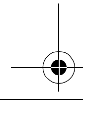
Problema	Compruebe si:
La válvula genera ruido	La velocidad del caudal es demasiado elevada.
	El líquido contiene aire.
	La temperatura del líquido supera los 240 °F (115 °C).
	El sentido de flujo no es el correcto.
La válvula no se abre	El nivel de voltaje es correcto.
	El cableado es correcto.
La válvula no se cierra o no se cierra herméticamente	El nivel de voltaje es correcto.
	La diferencia de presión ΔP es demasiado elevada.
	La cámara de la válvula contiene residuos.
	La paleta está dañada.
No se solicita calor	La válvula está abierta.
	El interruptor terminal presenta continuidad cuando la válvula está abierta.

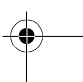
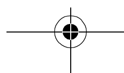
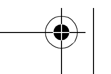
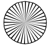
11. Eliminación

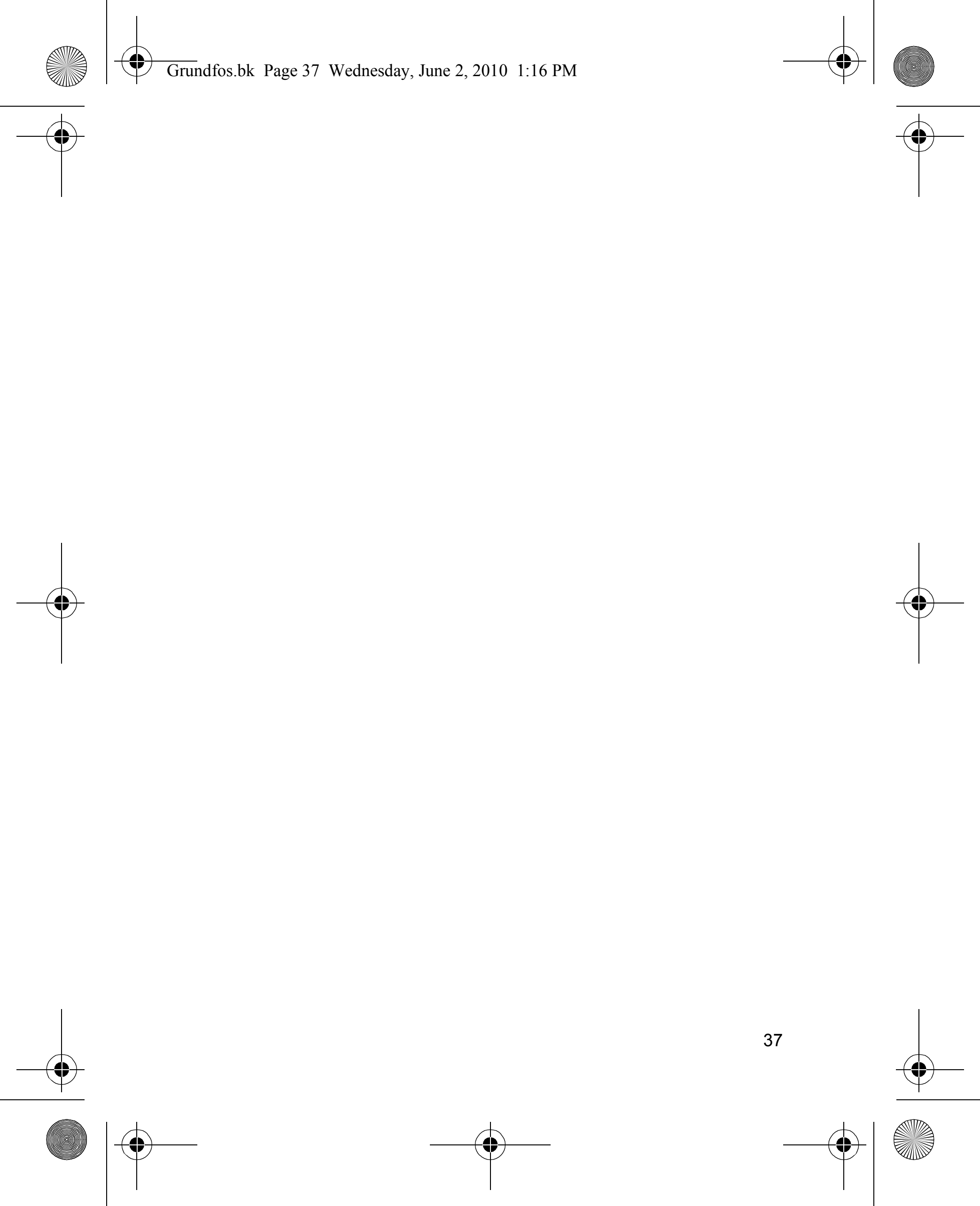
La eliminación de este producto o partes del mismo debe realizarse de forma respetuosa con el medio ambiente:

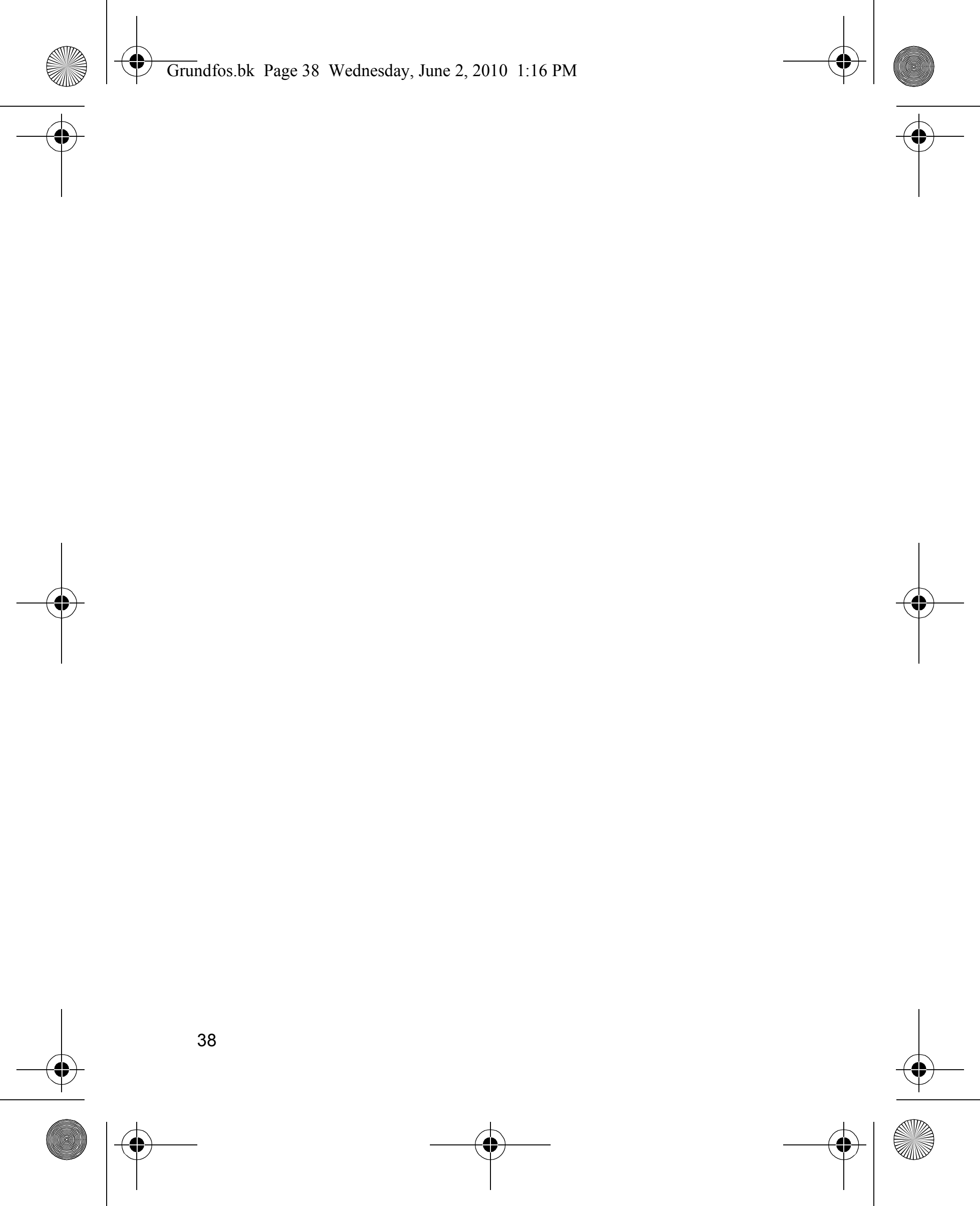
1. Utilizar el servicio local, público o privado, de recolección de residuos.
2. Si esto no es posible, contactar a la compañía o servicio técnico Grundfos más cercano.

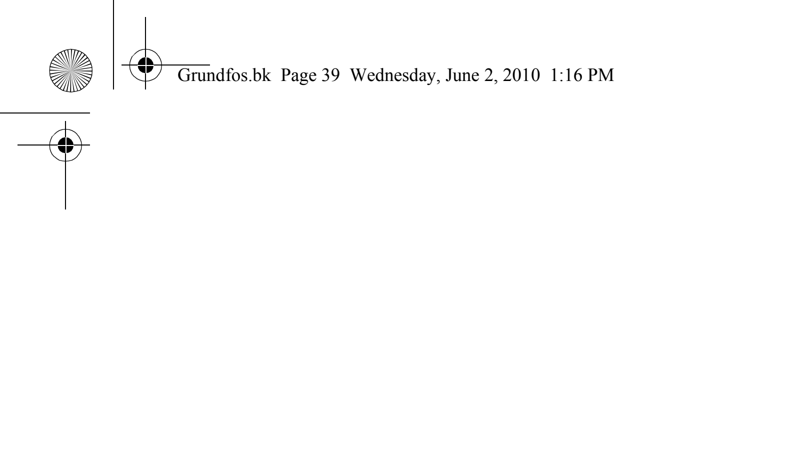
Nos reservamos el derecho a modificaciones.

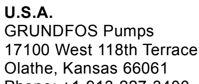








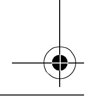


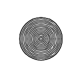
U.S.A.
GRUNDFOS Pumps
17100 West 118th Terrace
Olathe, Kansas 66061
Phone: +1-913-227-3400
Fax: +1-913-227-3500

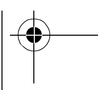
Canada
GRUNDFOS Canada Inc.
2941 Brighton Road
Oakville, Ontario
L6H 6C9
Phone: +1-905-829-9533
Fax: +1-905-829-9512

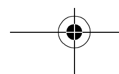
México
Bombas GRUNDFOS de
México S.A. de C.V.
Boulevard TLC No. 15
Parque Industrial Stiva
Aeropuerto
Apodaca, N.L.C.P. 66600
Phone: +52-81-8144-4000
Fax: +52-81-8144-4010

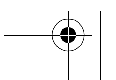
Addresses revised 22.09.2005

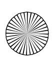


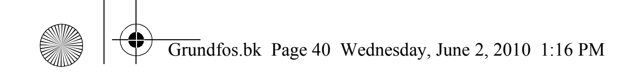
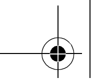
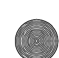


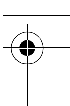






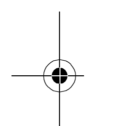


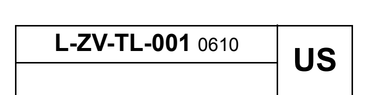






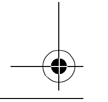
BE THINK INNOVATE

Being responsible is our foundation
Thinking ahead makes it possible
Innovation is the essence





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